

Appl. No. 10/632535

ACU 3062

Amendment dated December 29, 2005

Reply to Office Action of September 30, 2005

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented): A process for synthesizing a microporous ITQ-16 material having an X-ray diffraction pattern with diffraction peaks at 2θ angles of 6.9° , 7.6° and 9.6° comprising the steps of:

- a. providing a reaction mixture comprising a Si source, a Ge source, and an organic structure directing agent;
- b. adding a source of hydroxide to obtain an initial pH between 14 and 9; and
- c. heating the reaction mixture at a temperature between 80°C and 250°C .

2. (currently amended): A process according to claim 1, wherein the organic structure directing agent is selected from the group consisting of tetraalkylammonium organic cations having a general formula $(\text{R}_1\text{R}_2\text{R}_3\text{R}_4\text{N})^+$, wherein R_1 , R_2 , R_3 and R_4 may be alkyl or aromatic chains with 1 to 16 carbon atoms, and organic polycations having a general formula $\text{R}_m\text{N}_x((\text{CH}_2)_n)_p$ wherein x is between 2 and 12, n refers to the number of carbon atoms forming alkyl chains bridge between two ~~contiguously~~ contiguous nitrogen atoms and is between 1 and 6, p refers to number of alkyl chain bridges between nitrogen atoms and is between 2 and 24, R represents alkyl or aryl groups bonded to a single nitrogen atom (N) containing between 1 and 12 carbon atoms and m is between 0 and 36 ~~are used as structure directing agents.~~

3. (previously cancelled)

4. (previously presented): A process according to claim 1, wherein the reaction mixture is heated to a temperature between 130°C . and 175°C .

Appl. No. 10/632535

ACU 3062

Amendment dated December 29, 2005

Reply to Office Action of September 30, 2005

5. (previously presented): A process according to claim 1, wherein the pH of the initial reaction mixture is between 13 and 10.
6. (previously presented): A process according to claim 1, wherein the reaction mixture also contains a trivalent cation source.
7. (previously presented): A process according to claim 6, wherein the trivalent cation is selected from among Al, B, Fe and Cr.
8. (previously presented): A process according to claim 1, wherein the reaction mixture further comprises a tetravalent cation source other than Si and Ge.
9. (previously presented): A process according to claim 8, wherein the tetravalent cation is selected from the group consisting of Ti, Sn and V.
10. (previously presented): A process according to claim 1, wherein the organic structure directing agent is selected from the group represented in FIG. 4.
11. (currently amended): A process according to claim 1, wherein the organic structure directing agent is BD^+ , and wherein the reaction mixture has molar ratios within the following intervals:
 $BD^+/(SiO_2+GeO_2)$ =between 3 and 0.01,
 $H_2O/(SiO_2+GeO_2)$ =between 1000 and 0.5,
 $GeO_2/(SiO_2+GeO_2)$ $GeO_2/(SiO_2+GeO_2)$, defined as g_{11} , =between 0.8 and 0.005.
12. (previously presented): A process according to claim 11, wherein the molar ratio $BD^+/(SiO_2+GeO_2)$ is between 1 and 0.03.
13. (previously presented): A process according to claim 11, wherein the molar ratio $H_2O/(SiO_2+GeO_2)$ is between 100 and 2.
14. (currently amended): A process according to claim 11, wherein the molar ratio $GeO_2/(SiO_2+GeO_2)$ is between 0.5 and 0.032.

Appl. No. 10/632535

ACU 3062

Amendment dated December 29, 2005

Reply to Office Action of September 30, 2005

15. (currently amended): A process according to claim 11, wherein the molar ratio $\text{GeO}_2/(\text{SiO}_2+\text{GeO}_2)$ is between 0.333 and 0.625.
16. (previously presented): A process according to claim 11, wherein the reaction mixture further comprises at least one trivalent element X such that the molar ratio $(\text{Si}+\text{Ge})/\text{X}$ is at least 5.
17. (previously presented): A process according to claim 16, wherein the molar ratio $(\text{Si}+\text{Ge})/\text{X}$ is larger than 15.
18. (previously presented): A process according to claim 16, wherein the molar ratio $(\text{Si}+\text{Ge})/\text{X}$ is larger than 20.
19. (previously presented): A process according to claim 11, wherein the reaction mixture further comprises at least one tetravalent element, T, other than Ge and Si.
20. (currently amended): A process according to claim 19, wherein the molar ratio $\text{SiO}_2+\text{GeO}_2/\text{TO}_2$ is at least 10.
21. (previously presented): A process according to claim 19, wherein the tetravalent element, T, is selected from the group consisting of Ti, Sn and V.
22. (previously presented): A process according to claim 19, wherein the molar ratio $\text{SiO}_2+\text{GeO}_2/\text{TO}_2$ in the reaction mixture is larger than 20.
23. (previously presented): A process according to claim 11, wherein the reaction mixture also comprises an alkali metal or alkaline earth metal cation, M^{+n} .
24. (previously presented): A process according to claim 23, wherein the alkali metal or alkaline earth metal cation is selected from the group consisting of Na, Li, K, Ca and Mg.

Appl. No. 10/632535

ACU 3062

Amendment dated December 29, 2005

Reply to Office Action of September 30, 2005

25. (previously presented): A process according to claim 23, wherein the molar ratio M^{*n}/SiO_2+GeO_2 is less than 2.

26. (previously presented): A process according to claim 23, wherein the molar ratio M^{*n}/SiO_2+GeO_2 is less than 1.

27. (currently amended): A process according to claim 23, wherein the molar ratio $M^{*2}M^{*n}/SiO_2+GeO_2$ is less than 0.5.

28. (previously presented): A process according to claim 1, further comprising roasting at a temperature higher than 450°C.

29. (currently amended): A process according to claim 28, wherein the roasting step yields a roasted and anhydrous material of an empirical formula:



wherein

T represents at least one tetravalent element, T, other than Ge and Si,

X represents at least one element in a trivalent oxidation state,

M represents at least one alkali metal or alkaline earth metal cation,

the molar ratio $GeO_2/(SiO_2+GeO_2)$, defined as g_{Ge} , is between 0.8 and 0.005,

the molar ratio $(Si+Ge)/X$ is at least 5, and

the molar ratio SiO_2+GeO_2/TO_2 is at least 10.

30. (cancelled)

31. (previously cancelled)

32. (previously cancelled)

33. (previously cancelled)

34. (previously cancelled)

Appl. No. 10/632535
Amendment dated December 29, 2005
Reply to Office Action of September 30, 2005

ACU 3062

35. (previously cancelled)

36. (previously cancelled)

37. (previously cancelled)

38. (previously cancelled)

39. (cancelled)

40. (cancelled)

41. (cancelled)

42. (cancelled)

43. (cancelled)

44. (cancelled)

45. (cancelled)

46. (cancelled)

47. (cancelled)

48. (cancelled)

49. (cancelled)

50. (cancelled)

51. (cancelled)

DEC. -29' 05 (THU) 14:02

PATENTS&TRADEMARKS

TEL:225 388 7239

P. 008/010

Appl. No. 10/632535

ACU 3062

Amendment dated December 29, 2005

Reply to Office Action of September 30, 2005

52. (cancelled)

53. (cancelled)